

LISTING OF CLAIMS:

Claim 1 (Currently amended): A conveying system comprising

(a) a conveyor for advancing items thereon; and

(b) an image-capturing apparatus for detecting individual items on the conveyor and for generating image signals representing an image of the items; the apparatus including

(1) an illuminating unit formed of a matrix composed of a plurality of light-emitting diodes;

(2) a picture-capturing unit for receiving light rays emitted by said matrix and modified by an item situated in a path of the light rays and for generating the image signals; and

(3) a control unit connected to said matrix and said picture-capturing unit for a pulsed illumination of said matrix and for synchronizing the pulsed illumination of said matrix with actuation of said picture-capturing unit for individually capturing images of the items such that said light-emitting diode matrix only emits light during picture-capturing periods of the picture-capturing unit.

Claim 2 (Cancel)

Claim 3 (Original): The system as defined in claim 1, wherein said light-emitting diodes are monochromatic; further comprising a filter positioned in front of said picture-capturing unit in the path of said light rays; said filter transmitting light solely of a wavelength range of said light-emitting diodes.

Claim 4 (Original): The system as defined in claim 1, wherein said matrix is positioned above said conveyor and said picture-capturing unit is disposed below said conveyor, whereby said image-capturing apparatus operates with transmitted light.

Claim 5 (Original): The system as defined in claim 1, wherein said matrix is positioned below said conveyor and said picture-capturing unit is disposed above said conveyor, whereby said image-capturing apparatus operates with transmitted light; further wherein said conveyor is a light-diffusing belt.

Claim 6 (Original): The system as defined in claim 1, wherein said matrix and said picture-capturing unit are disposed above said conveyor, whereby said image-capturing apparatus operates with reflected light.

Claim 7 (Original): The system as defined in claim 6, further comprising an optical element at an output of said matrix for parallelizing light rays emitted by said matrix.

Claim 8 (Original): The system as defined in claim 6, further comprising a reflector positioned between said matrix and said conveyor for deflecting the light rays, emitted by said matrix, toward said conveyor.

Claim 9 (Original): The system as defined in claim 6, wherein said picture-capturing unit is disposed centrally in said matrix.

Claim 10 (Currently amended): A conveying system comprising

- (a) a conveyor for advancing items thereon; and
- (b) an image-capturing apparatus for detecting individual items on the conveyor and for generating image signals representing an image of the items; the apparatus including

- (1) an illuminating unit including
 - (i) a first matrix composed of light-emitting diodes and disposed above said conveyor;
 - (ii) a second matrix composed of a plurality of light-emitting diodes and disposed below said conveyor;
- (2) a picture-capturing unit disposed above said conveyor for receiving light rays emitted by said first and second matrices in reflected and transmitted light, respectively, and modified by an item situated in a part of the light rays and for generating the image signals; and
- (3) a control unit connected to said first and second matrices and said picture-capturing unit for a pulsed illumination of said first and second matrices and for synchronizing the pulsed illumination of said first and second matrices with actuation of said picture-capturing unit for individually capturing images of the items such that said light-emitting diode matrix only emits light during picture-capturing periods of the picture capturing unit.

Claim 11 (New): The system as defined in claim 1, wherein the system comprises a control device operating a gripper for gripping said items and wherein the picture-capturing unit transmits a signal based on a captured picture to the control device.

Claim 12 (New): The system as defined in claim 1, wherein the system comprises a control device which controls a storage device for distributing said items and wherein the picture-capturing unit transmits a signal based on a captured picture to the control device.

Claim 13 (New): The system as defined in claim 10, wherein the system comprises a control device operating a gripper for gripping said items and wherein the picture-capturing unit transmits a signal based on a captured picture to the control device.

Claim 14 (New): The system as defined in claim 10, wherein the system comprises a control device which controls a storage device for distributing said items and wherein the picture-capturing unit transmits a signal based on a captured picture to the control device.

Claim 15 (New): The system as defined in claim 1, wherein said light-emitting diode matrix is controlled by a shutter-control of the picture-capturing unit.

Claim 16 (New): The system as defined in claim 10, wherein said light-emitting diode matrix is controlled by a shutter-control of the picture-capturing unit.